

Claims

[c1] We claim as our invention:

1. A golf club head comprising:

a club head body having a front face with a recess therein;

an insert disposed within the recess, the insert comprising a body with an exterior surface, an interior surface and a perimeter defining the thickness of the body, the perimeter having a plurality of integral tabs extending therefrom that engage the club head body, the insert composed of a thermoplastic polyurethane material.

[c2] 2. The golf club head according to claim 1 wherein each of the plurality of tabs is disposed a predetermined distance apart from each other and the golf club head further comprises an epoxy disposed between each of the plurality of tabs.

[c3] 3. The golf club head according to claim 1 further comprising means for attaching the insert within the recess of the body.

[c4] 4. The golf club head according to claim 3 wherein the attachment means is an epoxy adhesive applied to the

interior surface of the insert.

- [c5] 5. The golf club head according to claim 1 wherein each of the plurality of tabs is compressible, and each of the plurality of tabs has a straight portion and a curved portion, the straight portion disposed between the curved portion and the perimeter, and the curved portion extending further than the straight portion to define an undercut between the curved portion and the perimeter.
- [c6] 6. The putter-type golf club head according to claim 1 wherein the thermoplastic polyurethane material is a selected from the group consisting of 4.4'-diphenylmethane diisocyanate-polyester thermoplastic polyurethanes and a para-phenylene diisocyanate-polyether thermoplastic polyurethane.
- [c7] 7. The golf head according to claim 1 further comprising a protective coating on the exterior surface of the insert.
- [c8] 8. The golf club head according to claim 1 wherein each of the plurality of tabs is compressible, and each of the plurality of tabs is a substantially hemispherical body projecting from the perimeter and spaced a predetermined distance apart from each other.
- [c9] 9. The golf club head according to claim 1 wherein the insert has a trapezoidal shape.

- [c10] 10. The golf club head according to claim 1 wherein the recess is defined by a frontal recess wall and an edge wall substantially perpendicular to the frontal recess wall, the edge wall defining the depth and area of the recess.
- [c11] 11. The golf club head according to claim 10 wherein the depth of the recess is greater than the thickness of the insert.
- [c12] 12. The golf club head according to claim 11 wherein an adhesive is disposed between the interior surface of the insert and the frontal recess wall of the recess.
- [c13] 13. The golf club head according to claim 1 wherein the perimeter of the insert comprises a plurality of straight portions interconnected by a plurality of curved portions.
- [c14] 14. The golf club head according to claim 1 wherein the thickness of the insert is between 0.125 and 0.5 inches.
- [c15] 15. The golf club head according to claim 1 wherein the insert is between 10 to 25 percent of the volume of the club head.
- [c16] 16. The golf club head according to claim 1 wherein the insert is between 1 to 5 percent of the weight of the club head.

[c17] 17. The golf club head according to claim 1 wherein the insert is between 55 to 75 percent of the area of the face of the club head.

[c18] 18. A putter club head comprising:
a club head body comprising a front face, a toe to one side of the front face and a heel to the other side of the front face, and a sole, the front face having a recess therein, the recess defined by a frontal recess wall and an edge wall substantially perpendicular to the frontal recess wall, the edge wall defining the depth and area of the recess;
an insert disposed within the recess, the insert comprising a body with an exterior surface, an interior surface and a perimeter defining the thickness of the body, the perimeter having a plurality of integral tabs extending therefrom that engage the edge wall of the club head body, each of the plurality of integral tabs spaced a predetermined distance from each other thereby defining openings between the integral tabs, the insert composed of a thermoplastic polyurethane material; and
an adhesive disposed within the openings between the integral tabs.

[c19] 19. The putter-type golf club head according to claim 18 wherein the thermoplastic polyurethane material is a se-

lected from the group consisting of
4,4'-diphenylmethane diisocyanate-polyester thermo-
plastic polyurethanes and a para-phenylene diiso-
cyanate-polyether thermoplastic polyurethane.